

WHAT IS CLAIMED IS:

1. A wireless communication apparatus  
5 comprising:  
a multipath detection part which detects a state of multipath in said wireless communication apparatus; and  
a send part which sends multipath  
10 detection information detected by said multipath detection part to a wireless communication apparatus at the other end.

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2. A wireless communication apparatus  
comprising:  
a multipath component canceling signal  
20 generation part which generates a signal which cancels a multipath component in a wireless communication apparatus at the other end on the basis of multipath detection information representing a state of multipath sent from said  
25 wireless communication apparatus at the other end;  
and  
a send part which sends said signal which cancels said multipath component generated in said multipath component canceling signal generation part  
30 to said wireless communication apparatus at the other end.

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3. The wireless communication apparatus as claimed in claim 2, said multipath component

canceling signal generation part comprising:  
a multipath component generation part  
which generates a multipath component on the basis  
of said multipath detection information representing  
5 said state of multipath in said wireless  
communication apparatus at the other end; and  
an interference wave detection part which  
detects an interference wave occurring between said  
multipath component and a send wave.

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4. The wireless communication apparatus as  
15 claimed in claim 3, said interference wave detection  
part comprising:

a filter part which filters a synthesized  
wave of said multipath component and said send wave;  
and  
20 an interference wave signal generation  
part which generates an interference wave signal  
corresponding to that in said wireless communication  
apparatus at the other end by comparing output  
signal from said filter part and said send wave.

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5. The wireless communication apparatus as  
30 claimed in claim 4, further comprising:

an opposite phase part which changes a  
phase of said interference wave signal to an  
opposite phase of said phase; and  
a send part which sends said interference  
35 wave signal having said opposite phase to said  
wireless communication apparatus at the other end.

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6. The wireless communication apparatus as  
5 claimed in claim 2, wherein said wireless  
communication apparatus sends an opposite phase wave  
of said signal which cancels said multipath  
component at a time position of a multipath having  
no interference in order to cancel said signal which  
10 cancels said multipath component.

15 7. A wireless communication method  
comprising the step of:

a wireless communication apparatus sending  
a signal which cancels a multipath component in a  
wireless communication apparatus at the other end to  
20 said wireless communication apparatus at the other  
end with a send signal.

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8. The wireless communication method as  
claimed in claim 7, wherein said signal which  
cancels said multipath component is a signal  
inverted from an interference wave signal generated  
30 from said multipath component in said wireless  
communication apparatus at the other end.

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9. A wireless communication method  
comprising the steps of:

a first wireless communication apparatus detecting a state of multipath in said first wireless communication apparatus;

5           said first wireless communication apparatus sending multipath detection information on said state to a second wireless communication apparatus;

10          said second wireless communication apparatus receiving said multipath detection information;

15          said second wireless communication apparatus generating a signal for canceling a multipath component in said first wireless communication apparatus on the basis of said multipath detection information; and

20          said second wireless communication apparatus sending said signal for canceling said multipath component to said first wireless communication apparatus.

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